

WHAT IS CLAIMED IS:

1. A reinforcing element for use in an underground pipe, comprising:

a tube body including impermeable inner and outer tubes made of flexible material and a fiber preform inserted between the tubes, and having two ends where the inner and outer tubes are hermetically bonded to each other;

a resin inlet tube formed at a lower portion in one end of the tube body;

an air vent tube formed at an upper portion in the other end of the tube body;

and

a porous breathing tube inserted into the air discharge tube.

2. A method for repairing and reinforcing an underground pipe, comprising the steps of:

inserting an inner mold made of flexible material through the interior of a reinforcing element including a fiber preform surrounded by impermeable inner and outer tubes made of the flexible material and combining the inner mold with the reinforcing element;

positioning a combined element, which includes the reinforcing element and the inner mold, into the underground pipe to be repaired and reinforced;

injecting and expanding the inner mold with and by high temperature fluid, and brining the reinforcing element into close contact with an inner wall of the underground pipe;

injecting the reinforcing element with thermosetting resin; and

removing the inner mold after the thermosetting resin has been cured.

3. The method as claimed in claim 2, wherein the step of injecting and expanding the inner mold with and by the high temperature fluid is repeated once more after the step of injecting the reinforcing element with the resin.

4. The method as claimed in claim 2, wherein the step of injecting the reinforcing element with the thermosetting resin comprises the steps of injecting the thermosetting resin through an end of the reinforcing element and discharging air from the other end

thereof into which a porous breathing tube for facilitating removing air bubbles is inserted.

5. The method as claimed in claim 2, wherein the step of positioning the combined element into the underground pipe comprises the step of applying an adhesive to the
5 outer tube of the reinforcing element.

6. The method as claimed in claim 4, wherein the breathing tube is removed after the thermosetting resin has been injected, in a case where the underground pipe is a pressure pipe.

7. The method as claimed in claim 2, wherein the reinforcing element is stored in
10 the form of a roll before the step of combining the inner mold therewith.

8. The method as claimed in claim 4, wherein a vacuum is applied to the other end of the reinforcing element during the step of injecting the reinforcing element with the thermosetting resin.